

ABSTRACT

A system for the detection of narrowband signals in wideband noise that combines information across two frequency channels that straddle the frequency of the target signal. Two band pass filters having center frequencies that straddle the frequency of the target signal and that have phase transfer functions that differ by 180 degrees relative to each other at the frequency of the target signal. The presence of the target signal is detected by performing a running cross-correlation of the outputs of saturating, non-linearities that follow from the filters, and determining when the output of the running cross-correlator drops below a predetermined threshold due to the phase shift between the two filter responses caused by the presence of the target signal.